

## **GEOLOGIC-POINT ATTRIBUTES (alphabetic listing by major topic)**

### **Version 2.0**

#### **U.S. Geological Survey, Southern California Areal Mapping Project**

##### **ALLGEOLOGIC-POINT CATEGORIES=.PNT.**

Geologic points that have analyzable data=.PNTZ.

Planar geologic structures=.PNTZP.

Bedding=.BED.

Cleavage attitude=.CLV.

Foliation attitude=.FOL

Joint attitude=.JNT.

Geometry of planar geologic features=.GEMP.

Horizontal planar features=.GEMPH.

Inclined planar features=.GEMPI.

Vertical planar features=.GEMPV.

Overturned planar features=.GEMPO.

Linear geologic structures=.PNTZL.

Lineations=.LIN.

Geometry of linear geologic features=.GEML.

Horizontal lineations=.GEMPLH.

In plane of inclined foliation=.GEMPLHI.

In plane of vertical foliation=.GEMPLHV.

Points describing mapped planar features=.PNTZPM.

Contact dip direction and amount=.PNTZPMC.

Dike dip direction and amount=.PNTZPMID.

Fault dip direction and amount=.PNTZPMF.

Fold-axial-plane dip direction and amount=.PNTZPMO.

Vein dip direction and amount=.PNTZPMV.

Geologic points that have annotation data=.PNTA.

Contact attributes=.PNTAF.

Fault attributes=.PNTAF.

Fold attributes=.PNTAO.

Observation stations=.PNTAV.

##### **ANALYZABLE GEOLOGIC POINTS (contain information that can be used for analysis)=.PNTZ.**

Planar geologic features=.PNTZP.

Bedding attitude=.BED.

Cleavage attitude=.CLV.

Foliation attitude=.FOL

Joint attitude=.JNT.

Linear geologic features=.PNTZL.

Lineations=.LIN.

Lineations in igneous rock=.LINI.

Lineations in metamorphic rock=.LINM.

Lineations in sedimentary rock=.LINS.

Lineations in strain-dominated rock=.LIND.

Points describing mapped planar features=.PNTZPM.

Contact dip direction and amount=.PNTZPMC.

Dike dip direction and amount=.PNTZPMID.

Fault dip direction and amount=.PNTZPMF.

Fold-axial-plane dip direction and amount=.PNTZPMO.

Vein dip direction and amount=.PNTZPMV.

#### **ANNOTATION GEOLOGIC POINTS (contain information only; not analyzable)=.PNTA.**

Contact attributes=.PNTAF.

Fault attributes=.PNTAF.

Fold attributes=.PNTAO.

Observation stations=.PNTAV.

#### **BEDDING POINTS**

Bedding=.BED.

bedding in sedimentary rock=.BEDS.

wavy or crinkled bedding=.BEDSW.

bedding in volcanogenic sedimentary rock=.BEDV.

wavy or crinkled bedding=.BEDVW.

Orientation of dip

Horizontal bedding=.GEMPHB.

Inclined beddings=.GEMPIB.

facing direction known (top of beds determined from facing structures)=.GEMPIBT.

facing direction unknown=.GEMPIBU.

overturned bedding=.GEMPOB.

facing direction known (top of beds determined from facing structures)=.GEMPOBT.

facing direction unknown=.GEMPOBU.

vertical bedding=.GEMPVB.

facing direction known (top of beds determined from facing structures)=.GEMPVBT.

facing direction unknown=.GEMPVBU.

Method of determination=.ADP.

azimuth and dip measured at site=.ADPM.

azimuth and dip approximate=.ADPA.

azimuth and dip direction indicated but not measured=.ADPAI.

azimuth and dip estimated=.ADPAE.

azimuth and dip estimated from binocular observation=.ADPAEB.

azimuth and dip estimated from aerial photographs=.ADPAEA.

Source of data=.DAT.

data compiled from non-USGS sources=.DATC.

original USGS data collected by map authors=.DATO.

#### **CLEAVAGE POINTS**

Cleavage type=.CLV.

one cleavage=.CLVO.

in metamorphic rocks=.CLVOM.

in sedimentary rocks=.CLVOS.

two cleavages=.CLVT.

Orientation of dip

Horizontal cleavage=.GEMPHC.

Inclined cleavage=.GEMPIC.

Vertical cleavage=.GEMPVC.

Method of determination=.ADP.

azimuth and dip measured at site=.ADPM.

azimuth and dip approximate=.ADPA.

azimuth and dip direction indicated but not measured=.ADPAI.

azimuth and dip estimated=.ADPAE.

azimuth and dip estimated from binocular observation=.ADPAEB.

azimuth and dip estimated from aerial photographs=.ADPAEA.

Source of data=.DAT.

data compiled from non-USGS sources=.DATC.

original USGS data collected by map authors=.DATO.

## CONTACT-ATTRIBUTE POINTS

Analyzable contact information

Contact dip direction and amount=.PNTZPMC.

Annotation contact information=.PNTAC.

contact clearly observable=.PNTACO.

knife-edge=.PNTACOK.

transitional over 1 to 10 meters=.PNTACOT.

gradational over 1 to 10 meters=.PNTACOG.

Source of data=.DAT.

data compiled from non-USGS sources=.DATC.

original USGS data collected by map authors=.DATO.

## DIP AND AZIMUTH ORIENTATION FOR STRUCTURAL POINTS

Geometry of feature=.GEM.

Geometry of feature, planar geologic-point structures=.GEMP.

horizontal=.GEMPHJ.

horizontal bedding=.GEMPHB.

horizontal cleavage=.GEMPHC.

horizontal foliation=.GEMPHF.

horizontal joint=.GEMPHJ.

inclined=.GEMPI.

inclined bedding=.GEMPIB.

inclined cleavage=.GEMPIC.

inclined foliation=.GEMPIF.

inclined joint=.GEMPIJ.

vertical=.GEMPV.

vertical bedding=.GEMPVB.

vertical cleavage=.GEMPVC.

vertical foliation=.GEMPVF.

vertical joint=.GEMPVJ.

overturned=.GEMPV.

overturned bedding=.GEMPOB.

overturned cleavage=.GEMPOC.

overturned foliation=.GEMPOF.

overturned joint=.GEMPOJ.

Geometry of feature, linear geologic-point structures=.GEML.

Geometry of minor-fold axes=.GELA.

Geometry not determined=.GELAN.

antiformal=.GEMLANA.

synformal=.GEMLANS.

rootless fold hinge=.GEMLANR.

antiformal=.GEMLANRA.

synformal=.GEMLANRS.

Geometry determined=.GEMLAD.  
 dextral rotation sense=.GEMLADD.  
 sinistral rotation sense=.GEMLADS.

Geometry of horizontal lineations=.GEMLH.  
 In plane of inclined foliation=.GEMLHI.  
 igneous=.GEMLHII.  
 metamorphic=.GEMLHIM.  
 strain-dominated=.GEMLHID.  
 origin unknown=.GEMLHIU.

In plane of vertical foliation=.GEMLVI.  
 igneous=.GEMLVII.  
 metamorphic=.GEMLVIM.  
 strain-dominated=.GEMLVID.  
 origin unknown=.GEMLVIU.

## DIKE-ATTRIBUTE POINTS

Dike dip direction and amount=.PNTZPMD.

Source of data=.DAT.

data compiled from non-USGS sources=.DATC.  
 original USGS data collected by map authors=.DATO.

## FAULT-ATTRIBUTE POINTS

Fault dip direction and amount=.PNTZPMF.

Annotation fault information=.PNTAFA.  
 annotation balloon=.PNTAFL.  
 bar and ball on down-dropped fault block=.PNTAFB.  
 strike-slip arrows=.PNTAFA.  
 left lateral=.PNTAFAL.  
 right lateral=.PNTAFAR.

Source of data=.DAT.

data compiled from non-USGS sources=.DATC.  
 original USGS data collected by map authors=.DATO.

## FOLD-ATTRIBUTE POINTS

Annotation points=.PNTAO.

Fold form not determined=.PNTAON.  
 antiform=.PNTAONA.  
 upright axial plane=.PNTAONAU.  
 overturned axial plane=.PNTAONAO.  
 synform=.PNTAONS.  
 upright axial plane=.PNTAONSU.  
 overturned axial plane=.PNTAONSO.

Fold form determined=.PNTAOD.  
 anticline=.PNTAODA.  
 upright axial plane=.PNTAODAU.  
 overturned axial plane=.PNTAODAA.  
 syncline=.PNTAODS.  
 upright axial plane=.PNTAODSU.  
 overturned axial plane=.PNTAODSO.

Refolded fold=.PNTAOR.

Fold form not determined=.PNTAORN.

Fold form determined=.PNTAORD.

    antiformal syncline=.PNTAORDA.

        upright axial plane=.PNTAORDAU.

        overturned axial plane=.PNTAORDAO.

    synformal anticline=.PNTAORDS.

        upright axial plane=.PNTAORDSU.

        overturned axial plane=.PNTAORDSO.

Fold-hinge plunge direction=.PNTAOH.

Fold-form not determined=.PNTAOHN.

    antiform=.PNTAOHNA.

    synform=.PNTAOHNS.

Fold form determined=.PNTAOHD.

    anticline=.PNTAOHDA.

    syncline=.PNTAOHDS.

Refolded fold=.PNTAOHR.

Fold form not determined=.PNTAOHRN.

Fold form determined=.PNTAOHRD.

    antiformal syncline=.PNTAOHRDA.

    synformal anticline=.PNTAOHRDS.

Analyzable points, describing mapped planar features=.PNTZPM.

Fold axial-plane dip direction and amount=.PNTZPMO.

Fold-form not determined=.PNTZPMON.

    antiform=.PNTZPMONA.

    synform=.PNTZPMONS.

Fold form determined=.PNTZPMOD.

    anticline=.PNTZPMODA.

    syncline=.PNTZPMODS.

Source of data=.DAT.

    data compiled from non-USGS sources=.DATC.

    original USGS data collected by map authors=.DATO.

## FOLIATION POINTS

Foliation type=.FOL.

Foliation, igneous=.FOLI.

    cumulate foliation=.FOLIC.

    eutaxitic flow banding=.FOLIE.

    flow foliation=.FOLIF.

        oriented lapilli=.FOLIFL.

        oriented mineral grains=.FOLIFG.

        oriented schlieren=.FOLIFS.

        oriented xenoliths=.FOLIFX.

        unspecified flow origin=.FOLIFU.

    plutonic foliation=.FOLIP.

    welding in ash-flow tuff=.FOLIW.

    volcanic foliation=.FOLIV.

    unspecified origin=.FOLIU.

Foliation, metamorphic=.FOLM.

    crenulated foliation=.FOLMC.

    crinkled foliation=.FOLMK.

    gneissosity=.FOLMG.

schistose foliation=.FOLMS.  
 undulatory foliation=.FOLMN.  
 wavy foliation=.FOLMW.  
 unspecified foliation=.FOLMU.

Foliation, strain dominated=.FOLD.  
 cataclastic foliation=.FOLDC.  
 mylonitic foliation=.FOLDM.  
 pseudotachylitic foliation=.FOLDP.

Foliation, origin not determined=.FOLN.  
 gneissose foliation, origin not determined=.FOLNG.  
 mineral foliation, origin not determined=.FOLNM.

#### Orientation of foliation dip

horizontal=.GEMPHF.  
 inclined=.GEMPIF.  
 overturned=.GEMPOF.  
 vertical=.GEMPVF.

#### Method of determination=.ADP.

azimuth and dip measured at site=.ADPM.  
 azimuth and dip approximate=.ADPA.  
 azimuth and dip direction indicated but not measured=.ADPAI.  
 azimuth and dip estimated=.ADPAE.  
 azimuth and dip estimated from binocular observation=.ADPAEB.  
 azimuth and dip estimated from aerial photographs=.ADPAEA.

#### Source of data=.DAT.

data compiled from non-USGS sources=.DATC.  
 original USGS data collected by map authors=.DATO.

### **GEOLOGIC AGE CLASSIFICATION (chronologic listing, youngest to oldest)**

Age unknown=.AGU.

Cenozoic=.CZO.

Quaternary=.CZOQ.

Holocene=.CZOQH.  
 Modern=.CZOQHD.  
 Holocene, late=.CZOQHL.  
 Holocene, middle=.CZOQHM.  
 Holocene, early=.CZOQHE.  
 Pleistocene=.CZOQP.  
 Pleistocene, late=.CZOQPL.  
 Pleistocene, middle=.CZOQPM.  
 Pleistocene, early=.CZOQPE.

Tertiary=.TER.

Neogene=.NGN.

Pliocene=.CZOTP.  
 Pliocene, late=.CZOTPL.  
 Pliocene, early=.CZOTPE.  
 Miocene=.CZOTM.  
 Miocene, late=.CZOTML.  
 Miocene, middle=.CZOTMM.  
 Miocene, early=.CZOTME.  
 Oligocene=.CZOTO.  
 Oligocene, late=.CZOTOL.

Oligocene, early=.CZOTOE.	
Eocene=.CZOTE.	
Eocene, late=.CZOTEL.	
Eocene, middle=.CZOTEM.	Paleogene=.PGN.
Eocene, early=.CZOTEE.	
Paleocene=.CZOTA.	
Paleocene, late=.CZOTAL.	
Paleocene, early=.CZOTAE.	

Mesozoic=.MZO.

Cretaceous=.MZOK.	
Cretaceous, late=.MZOKL.	
Cretaceous, early=.MZOKE.	
Jurassic=.MZOJ.	
Jurassic, late=.MZOJL.	
Jurassic, early=.MZOJE.	
Triassic=.MZOT.	
Triassic, late=.MZOTL.	
Triassic, early=.MZOTE.	

Paleozoic=.PZO.

Permian=.PZOR.	
Permian, late=.PZORL.	
Permian, early=.PZORE.	Late Paleozoic=.PZOL.
Pennsylvanian=.PZOP.	
Pennsylvanian, late=.PZOPL.	
Pennsylvanian, early=.PZOPE.	
Mississippian=.PZOM.	
Mississippian, late=.PZOML.	
Mississippian, early=.MISE	
Devonian=.PZOD.	
Devonian, late=.PZODL.	Middle Paleozoic=.PZOI.
Devonian, early=.PZODE.	
Silurian=.PZOS.	
Silurian, late=.PZOSL.	
Silurian, early=.PZOSE.	
Ordovician=.PZOO.	
Ordovician, late=.PZOOL.	
Ordovician, early=.PZOOE.	Early Paleozoic=.PZOE.
Cambrian=.PZOC.	
Cambrian, late=.PZOCL.	
Cambrian, early=.PZOCE.	

Precambrian=.PRC.

Archean=.PRCA.	
Archean, late=.PRCAL.	
Archean, middle=.PRCAM.	
Archean, early=.PRCAE.	
Proterozoic=.PRCP.	
Proterozoic, late=.PRCPL.	
Proterozoic, middle=.PRCPM.	
Proterozoic, early=.PRCPE.	

#### **GEOLOGIC AGE CLASSIFICATION (alphabetic listing)**

age unknown=.AGU.  
 Archean=.PRCA.  
 Archean, early=.PRCAE.  
 Archean, late=.PRCAL.  
 Archean, middle=.PRCAM.  
 Cambrian=.PZOC.

Cambrian, early=.PZOCE.  
Cambrian, late=.PZOCL.  
Cenozoic=.CZO.  
Cretaceous=.MZOK.  
Cretaceous, early=.MZOKE.  
Cretaceous, late=.MZOKL.  
Devonian=.PZOD.  
Devonian, early=.PZODE.  
Devonian, late=.PZODL.  
Eocene=.CZOTE.  
Eocene, early=.CZOTEE.  
Eocene, middle=.CZOTEM.  
Eocene, late=.CZOTEL.  
Holocene=.CZOQH.  
Holocene, early=.CZOQHE.  
Holocene, late=.CZOQHL.  
Holocene, middle=.CZOQHM.  
Jurassic=.MZOJ.  
Jurassic, early=.MZOJE.  
Jurassic, late=.MZOJL.  
Mesozoic=.MZO.  
Miocene=.CZOTM.  
Miocene, early=.CZOTME.  
Miocene, late=.CZOTML.  
Miocene, middle=.CZOTMM.  
Mississippian=.PZOM.  
Mississippian, early=.PZOME.  
Mississippian, late=.PZOML.  
Modern=.CZOQHD.  
Neogene=.NGN.  
Oligocene=.CZOTO.  
Oligocene, early=.CZOTOE.  
Oligocene, late=.CZOTOL.  
Ordovician=.PZOO.  
Ordovician, early=.PZOOE.  
Ordovician, late=.PZOOL.  
Paleocene=.CZOTA.  
Paleocene, early=.CZOTAE.  
Paleocene, late=.CZOTAL.  
Paleogene=.PGN.  
Paleozoic=.PZO.  
Paleozoic, early=.PZOE.  
Paleozoic, late=.PZOL.  
Paleozoic, middle=.PZOI.  
Pennsylvanian=.PZOP.  
Pennsylvanian, early=.PZOPE.  
Pennsylvanian, late=.PZOPL.  
Permian=.PZOR.  
Permian, early=.PZORE.  
Permian, late=.PZORL.  
Pleistocene=.CZOQP.  
Pleistocene, early=.CZOQPE.  
Pleistocene, late=.CZOQPL.  
Pleistocene, middle=.CZOQPM.  
Pliocene=.CZOTP.  
Pliocene, early=.CZOTPE.  
Pliocene, late=.CZOTPL.  
Precambrian=.PRC.  
Proterozoic=.PRCP.  
Proterozoic, early=.PRCPE.  
Proterozoic, late=.PRCPL.  
Proterozoic, middle=.PRCPM.  
Quaternary=.CZOQ.  
Silurian=.PZOS.  
Silurian, early=.PZOSE.

Silurian, late=.PZOSL.

Tertiary=.TER.

Triassic=.MZOT.

Triassic, early=.MZOTE.

Triassic, late=.MZOTL.

#### **GEOLOGIC AGE CRITERIA (basis and confidence of point-age assignment)=.ABC.**

Fossil age=.ABCF.

age is certain=.ABCFC.

age is likely but not confirmed=.ABCFL.

age is uncertain=.ABCFU.

Geomorphic development=.ABCG.

age is certain=.ABCGC.

age is likely but not confirmed=.ABCRL.

age is uncertain=.ABCGU.

Intrusive relations=.ABCR.

age is certain=.ABCRC.

age is likely but not confirmed=.ABCRL.

age is uncertain=.ABCRU.

Isotopic age=.ABCI.

age is certain=.ABCIC.

age is likely but not confirmed=.ABCIL.

age is uncertain=.ABCIU.

Paleomagnetism=.ABCP.

age is certain=.ABCPC.

age is likely but not confirmed=.ABCPL.

age is uncertain=.ABCPU.

Pedogenic-soil development=.ABCD.

age is certain=.ABCDC.

age is likely but not confirmed=.ABCDL.

age is uncertain=.ABCDU.

Regional correlation=.ABCC.

age is certain=.ABCCC.

age is likely but not confirmed=.ABCCL.

age is uncertain=.ABCCU.

Stratigraphic relations=.ABCS.

age is certain=.ABCSC.

age is likely but not confirmed=.ABCSL.

age is uncertain=.ABCSU.

Tephrochronology=.ABCT.

age is certain=.ABCTC.

age is likely but not confirmed=.ABCTL.

age is uncertain=.ABCTU.

#### **JOINT POINTS**

Joint type=.JNT.

Igneous=.JNTI.

plutonic=.JNTIP.

volcanic=.JNTIV.

Sedimentary=.JNTS.

Orientation of dip

inclined=.GEMPIJ.

horizontal=.GEMPHJ.  
vertical=.GEMPVJ.

Method of determination=.ADP.

azimuth and dip measured at site=.ADPM.  
azimuth and dip approximate=.ADPA.  
    azimuth and dip direction indicated but not measured=.ADPAI.  
    azimuth and dip estimated=.ADPAE.  
        azimuth and dip estimated from binocular observation=.ADPAEB.  
        azimuth and dip estimated from aerial photographs=.ADPAEA.

Source of data=.DAT.

data compiled from non-USGS sources=.DATC.  
original USGS data collected by map authors=.DATO.

## LINEATION POINTS

Lineation type

Lineations on fault surfaces=.LINF.  
    fault-slip-direction indicators=.LINFS.  
        fault-slip direction, unidirectional=.LINFSU.  
        mullion on fault surface=.LINFSUM.  
        slickenside on fault surface=.LINFSUS.  
    fault-slip direction, bidirectional=.LINFSB.  
        striation on fault surface=.LINFSBS.  
        groove on fault surface=.LINFSBG.  
    fault-slip direction, unspecified indicator=.LINFSU.

Lineation in igneous rocks=.LINI.  
    flow lineation=.LINIF.  
        aligned mineral grains=.LINIFA.

Lineations in metamorphic rocks=.LINM.  
    aligned mineral grains=.LINMA.  
    boudinage=.LINMB.  
    crushed and streaked mineral grains=.LINMC.  
    crushed and streaked mineral grains together with rodding=.LINMCR.  
    crushed and streaked mineral grains together with aligned mineral grains=.LINMCA.  
    intersection of foliation and cleavage, metamorphic=.LINMI.  
    rodding=.LINMR.

Lineation in sedimentary rocks=.LINS.  
    paleocurrent direction=.LINSPI.  
        bidirectional=.LINSPIB.  
            glacial striation=.LINSPIBG.  
            sole mark=.LINSPIBS.  
        unidirectional=.LINSPIU.  
            cross bedding=.LINSPIUX.  
            clast imbrication=.LINSPIUC.  
    intersection of bedding and cleavage=.LINSI.

Lineations in strain-dominated rock=.LIND.  
    aligned mineral grains=.LINDA.  
    crushed and streaked mineral grains=.LINDC.  
    crushed and streaked mineral grains together with aligned mineral grains=.LINDCA.  
    crushed and streaked mineral grains together with rodding=.LINDCR.  
    rodding=.LINDR.

Lineation, minor-fold axis=.LINA.  
    minor-fold axis in igneous rock=.LINAII.  
        kink-band fold=.LINAIIK.

minor-fold axis in metamorphic rock=.LINAM.  
     kink-band fold=.LINAMK.  
     minor-fold axis in sedimentary rock=.LINAS.  
         kink-band fold=.LINASK.  
     minor-fold axis in strain-dominated rock=.LINAD.  
         kink-band fold=.LINADK.

Lineation, origin not determined=.LINN.

Lineation Geometry=.GEML.

Lineation, horizontal in plane of inclined foliation=.GEMLHI.

    horizontal in plane of inclined foliation, igneous rock=.GEMLHII.  
     horizontal in plane of inclined foliation, metamorphic rock=.GEMLHIM.  
     horizontal in plane of inclined foliation strain-dominated rock=.GEMLHID.

Lineation, horizontal in plane of vertical foliation=.GEMLHV.

    horizontal in plane of vertical foliation, igneous rock=.GEMLHVI.  
     horizontal in plane of vertical foliation, metamorphic rock=.GEMLHVM.  
     horizontal in plane of vertical foliation, strain-dominated rock=.GEMLHVD.

Minor-fold lineation geometry=.GEMLA.

    geometry not determined=.GEMLAN.  
         antiformal=.GEMLANA.  
         synformal=.GEMLANS.  
         rootless fold hinge=.GEMLANR.  
             antiformal=.GEMLANRA.  
             synformal=.GEMLANRS.  
     geometry determined=.GEMLAD.  
         rotation sense, dextral=.GEMLADD.  
         rotation sense, sinistral =.GEMLADS.  
         rotation sense not determined=.GEMLADN.

Two lineations=.GMLT.

    Two lineations normal to each other=.GMLTN.  
     Two lineations parallel to each other=.GMLTP.

Lineation, geometry not determined=.GMLN.

Source of data=.DAT.

    data compiled from non-USGS sources=.DATC.  
     original USGS data collected by map authors=.DATO.

## MASSIVE-TEXTURE POINTS

Massive texture=.PNTAM.

Method of determination=.ADP.

    azimuth and dip measured at site=.ADPM.

Source of data=.DAT.

    data compiled from non-USGS sources=.DATC.  
     original USGS data collected by map authors=.DATO.

## OBSERVATION-STATION POINTS (.PNTAV.)

annotation balloon for geologic information=.PNTAVA.  
     fossil observation=.PNTAVF.

fossil collection=.PNTAVFC.  
fossil description=.PNTAVFD.  
fossils observed=.PNTAVFO.  
generic observation station=.PNTAVV.  
geochemistry determination=.PNTAVC.  
geophysical measurement =.PNTAVG.  
    gravity determination=.PNTAVGG.  
    magnetic-susceptibility determination=.PNTAVGM.  
isotopic-age determination=.PNTAVI.  
    Ar40/39 determination=.PNTAVIF.  
    C14 determination=.PNTAVIC.  
    fission track determination=.PNTAVIT.  
    K/Ar determination=.PNTAVIK.  
    U/Pb determination=.PNTAVIU.  
  
lithologic description=.PNTAVL.  
modal-mineralogy determination=.PNTAVM.  
    stained-slab determination=.PNTAVMS.  
    thin-section determination=.PNTAVMT.  
paleomagnetic determination=.PNTAVN.  
pedogenic-soil observation=.PNTAVP.  
    soil profile described=.PNTAVPD.  
    soil profile examined=.PNTAVPE.  
subsurface-boring site=.PNTAVS.

Source of data=.DAT.

    data compiled from non-USGS sources=.DATC.  
    original USGS data collected by map authors=.DATO.

#### VEIN-ATTRIBUTE POINTS

Vein dip direction and amount=.PNTZPMV.

Source of data=.DAT.

    data compiled from non-USGS sources=.DATC.  
    original USGS data collected by map authors=.DATO.

**PONT-ATTRIBUTE CODES (alphabetic listing by specific keywords)****Version 2.0****U.S. Geological Survey, Southern California Areal Mapping Project**

aligned mineral grains, lineation in igneous rock=.LINIFA.  
aligned mineral grains, lineation in metamorphic rock=.LINMA.  
aligned mineral grains, lineation in sedimentary rock=.LNSA.  
aligned mineral grains, lineation in strain-dominated rock=.LINDA.

annotation balloon containing fault information=.PNTAFL.  
annotation balloon containing annotation information=.PNTAVA.

antiformal geometry, minor-fold-axis lineation=.GEMLANA.  
antiformal geometry, rootless minor-fold-axis lineation=.GEMLANRA.

approximate determination of azimuth and dip=.ADPA.  
approximate determination of azimuth and dip, estimated=.ADPAE.  
approximate determination of azimuth and dip, estimated, aerial photography determination=.ADPAEA.  
approximate determination of azimuth and dip, estimated, binocular determination=.ADPAEB.

Archean=.PRCA.  
Archean, early=.PRCAE.  
Archean, late=.PRCAL.  
Archean, middle=.PRCAM.

bar and ball on down-dropped fault block=.PNTAFB.

bedding=.BED.  
bedding, sedimentary=.BEDS.  
bedding, volcanogenic=.BEDV.

boudinage=.LINMB.

Cambrian=.PZOC.  
Cambrian, early=.PZOCE.  
Cambrian, late=.PZOCL.

cataclastic foliation in strain-dominated rock=.FOLDC.

Cenozoic=.CZO.

clast imbrication, paleocurrent lineation in sedimentary rock=.LINSPEC.

cleavage=.CLV.  
cleavage, one cleavage=.CLVO.  
cleavage, two cleavages=.CLVT.

compiled data=.DATC.

contact attribute=.PNTAC.  
contact attribute, clearly observable=.PNTACO.  
contact attribute, clearly observable, knife-edge=.PNTACOK.  
contact attribute, clearly observable, transitional over 1 to 10 meters=.PNTACOT.  
contact attribute, clearly observable, gradational over 1 to 10 meters=.PNTACOG.  
contact attribute, dip direction=.PNTZPMC.

crenulated foliation (metamorphic foliation)=.FOLMC.

Cretaceous=.MZOK.  
Cretaceous, early=.MZOKE.  
Cretaceous, late=.MZOKL.

crinkled foliation (metamorphic foliation)=.FOLMK.  
 cross bedding, paleocurrent lineation in sedimentary rock=.LINSPUX.

crushed and streaked mineral grains, lineation in metamorphic rock=.LINMC.  
 crushed and streaked mineral grains & rodding, lineation in metamorphic rock=.LINMCR.  
 crushed and streaked mineral grains, lineation in strain-dominated rock=.LINDC.  
 crushed and streaked mineral grains & rodding, lineation in strain-dominated rock=.LINDCR.

cumulate foliation in igneous rock=.FOLIC.

data-integrity information, strike-and-dip direction=.ADP.  
 data-integrity information, strike-and-dip direction, measured at site=.ADPM.  
 data-integrity information, strike-and-dip direction, approximated=.ADPA.  
 data-integrity information, strike-and-dip direction, approximated, indicated but not measured=.ADPAI.  
 data-integrity information, strike-and-dip direction, approximated, estimated but not measured=.ADPAE.  
 data-integrity information, strike-and-dip direction, approximated, estimated from binocular observation=.ADPAEB.  
 data-integrity information, strike-and-dip direction, approximated, estimated from aerial photographs=.ADPAEA.

Devonian=.PZOD.  
 Devonian, early=.PZODE.  
 Devonian, late=.PZODL.

dextral rotation indicated by minor-fold-axis lineation=.GEMLADD.

dike dip direction and amount=.PNTZPMID.

dip-direction, dike=.PNTZPMID.  
 dip-direction, fault=.PNTZPMF.  
 dip-direction, fold axial plane=.PNTZPMID.  
 dip direction, geologic contact=.PNTZPMC.  
 dip-direction, vein=.PNTZPMV.

Eocene=.CZOTE.  
 Eocene, early=.CZOTEE.  
 Eocene, middle=.CZOTEM.  
 Eocene, late=.CZOTEL.

estimated azimuth and dip=.ADPAE.

facing direction of inclined bedding known=.GEMPIBK.  
 facing direction of inclined bedding unknown=.GEMPIBU.  
 facing direction of overturned bedding known=.GEMPOBK.  
 facing direction of overturned bedding unknown=.GEMPOBU.  
 facing direction of vertical bedding known=.GEMPVBK.  
 facing direction of vertical bedding unknown=.GEMPVBU.

fault-annotation type=.PNTAF.  
 fault-annotation type, annotation balloon=.PNTAFL.  
 fault-annotation type, bar and ball on down-dropped fault block=.PNTAFB.  
 fault-annotation type, strike-slip arrows=.PNTAFA.  
 fault-annotation type, strike-slip arrows, left lateral=.PNTAFAL.  
 fault-annotation type, strike-slip arrows, right lateral=.PNTAFAR.

fault dip direction and amount=.PNTZPMF.

fault-slip-direction indicators=.LINFS.  
 fault-slip-direction indicators, unidirectional=.LINFSU.  
 fault-slip-direction indicators, unidirectional, mullion on fault surface=.LINFSUM.  
 fault-slip-direction indicators, unidirectional, slickenside on fault surface=.LINFSUS.  
 fault-slip direction, bidirectional=.LINFSB.  
 fault-slip direction, bidirectional, striation on fault surface=.LINFSBS.  
 fault-slip direction, bidirectional, groove on fault surface=.LINFSBG.  
 fault-slip-direction indicators, unspecified indicator=.LINFSU.

flow foliation in igneous rock=.FOLIF.

flow lineation in igneous rock=.LINIF.

fold annotation=.PNTAO.

fold annotation, fold form determined=.PNTAOD.

fold annotation, fold form determined, anticline=.PNTAODA.

fold annotation, fold form determined, syncline=.PNTAODS.

fold annotation, fold form not determined=.PNTAON.

fold annotation, fold form not determined, antiform=.PNTAONA.

fold annotation, fold form not determined, synform=.PNTAONS.

fold annotation, refolded fold=.PNTAOR.

fold annotation, refolded fold, fold form determined=.PNTAORD.

fold annotation, refolded fold, fold form determined, antiformal syncline=.PNTAORDA.

fold annotation, refolded fold, fold form determined, synformal anticline=.PNTAORDS.

fold annotation, refolded fold, fold form not determined=.PNTAORN.

fold axial-plane dip direction and amount=.PNTZPMO.

foliation in crystalline rocks=.FOL.

foliation in crystalline rocks, igneous=.FOLI.

foliation in crystalline rocks, igneous, cumulate foliation=.FOLIC.

foliation in crystalline rocks, igneous, eutaxitic flow banding=.FOLIFE.

foliation in crystalline rocks, igneous, flow foliation=.FOLIF.

foliation in crystalline rocks, igneous, flow foliation, oriented lapilli=.FOLIFL.

foliation in crystalline rocks, igneous, flow foliation, oriented mineral grains=.FOLIFG.

foliation in crystalline rocks, igneous, flow foliation, oriented schlieren=.FOLIFS.

foliation in crystalline rocks, igneous, flow foliation, oriented xenoliths=.FOLIFX.

foliation in crystalline rocks, igneous, flow foliation, unspecified type=.FOLIFU.

foliation in crystalline rocks, igneous, unspecified origin=.FOLIU.

foliation in crystalline rocks, igneous, welding in ash-flow tuff=.FOLIW.

foliation in crystalline rocks, metamorphic=.FOLM.

foliation in crystalline rocks, metamorphic, undulatory foliation=.FOLMN.

foliation in crystalline rocks, metamorphic, crenulated foliation=.FOLMC.

foliation in crystalline rocks, metamorphic, gneissosity=.FOLMG.

foliation in crystalline rocks, metamorphic, crinkled foliation=.FOLMK.

foliation in crystalline rocks, metamorphic, schistosity=.FOLMS.

foliation in crystalline rocks, metamorphic, wavy foliation=.FOLMW.

foliation in crystalline rocks, strain dominated=.FOLD.

foliation in crystalline rocks, strain dominated, cataclastic foliation=.FOLDC.

foliation in crystalline rocks, strain dominated, mylonitic foliation=.FOLDM.

foliation in crystalline rocks, strain dominated, pseudotachylitic foliation=.FOLDP.

foliation in crystalline rocks, origin not determined=.FOLN.

foliation in crystalline rocks, origin not determined, gneissose foliation=.FOLNG.

foliation in crystalline rocks, origin not determined, mineral foliation=.FOLNM.

fossil observation site=.PNTAVF.

fossil observation sit, fossil collection=.PNTAVFC.

fossil observation sit, fossil description=.PNTAVFD.

fossil observation sit, fossils observed=.PNTAVFO.

generic observation station=.PNTAVV.

geochemistry determination=.PNTAVC.

geologic-age criteria and basis=.ABC.

geologic-age criteria and basis, fossil age=.ABCF.

geologic-age criteria and basis, fossil age, age is certain=.ABCFC.

geologic-age criteria and basis, fossil age, age is uncertain=.ABCFU.

geologic-age criteria and basis, isoptopic age=.ABCi.

geologic-age criteria and basis, isoptopic age, age is certain=.ABCIC.

geologic-age criteria and basis, isoptopic age, age is uncertain=.ABCiU.

geologic-age criteria and basis, geomorphic development=.ABCG.

geologic-age criteria and basis, geomorphic development, age is certain=.ABCGC.

geologic-age criteria and basis, geomorphic development, age is uncertain=.ABCGU.  
 geologic-age criteria and basis, intrusive relations=.ABCR.  
 geologic-age criteria and basis, intrusive relations, age is certain=.ABCRC.  
 geologic-age criteria and basis, intrusive relations, age is uncertain=.ABCRU.  
 geologic-age criteria and basis, paleomagnetism=.ABCP.  
 geologic-age criteria and basis, paleomagnetism, age is certain=.ABCPC.  
 geologic-age criteria and basis, paleomagnetism, age is uncertain=.ABCPU.  
 geologic-age criteria and basis, pedogenic-soil development=.ABCD.  
 geologic-age criteria and basis, pedogenic-soil development, age is certain=.ABCDC.  
 geologic-age criteria and basis, pedogenic-soil development, age is uncertain=.ABCDU.  
 geologic-age criteria and basis, regional correlation=.ABCC.  
 geologic-age criteria and basis, regional correlation, age is certain=.ABCCC.  
 geologic-age criteria and basis, regional correlation, age is uncertain=.ABCCU.  
 geologic-age criteria and basis, stratigraphic relations=.ABCS.  
 geologic-age criteria and basis, stratigraphic relations, age is certain=.ABCSC.  
 geologic-age criteria and basis, stratigraphic relations, age is uncertain=.ABCSU.  
 geologic-age criteria and basis, tephrochronology=.ABCT.  
 geologic-age criteria and basis, tephrochronology, age is certain=.ABCTC.  
 geologic-age criteria and basis, tephrochronology, age is uncertain=.ABCTU.

geologic-contact annotation=.PNTAC.  
 geologic-contact annotation, clearly observable=.PNTACO.  
 geologic-contact annotation, clearly observable, knife-edge=.PNTACOK.  
 geologic-contact annotation, clearly observable, transitional over 1 to 10 meters=.PNTACOT.  
 geologic-contact annotation, clearly observable, gradational over 1 to 10 meters=.PNTACOG.

geologic-contact dip direction=.PNTZPMC.

geometry not determined, lineation=.GEMLN.  
 geometry not determined, lineation, minor-fold axis=.GEMLN.

glacial striation, lineation=.LINSBPG.

gneissose foliation (origin not determined)=.FOLNG.  
 gneissose foliation (metamorphic rock)=.FOLMG.

gradational geologic-contact attribute=.PNTACOG.

groove on fault surface=.LINFSBG.

Holocene=.CZOQH.  
 Holocene, early=.CZOQHE.  
 Holocene, late=.CZOQHL.  
 Holocene, middle=.CZOQHM.

horizontal planar or linear element, planar, bedding=.GEMPHB.  
 horizontal planar or linear element, planar, cleavage=.GEMPHC.  
 horizontal planar or linear element, planar, foliation=.GEMPHF.  
 horizontal planar or linear element, planar, jointing=.GEMPHJ.

horizontal planar or linear element, linear=.GEML.  
 horizontal planar or linear element, linear, lineation horizontal in plane of inclined foliation=.GEMLHII.  
 horizontal planar or linear element, linear, lineation horizontal in plane of vertical foliation=.GEMLHVI.

igneous foliation=.FOLI.  
 igneous foliation, cumulate foliation=.FOLIC.  
 igneous foliation, eutaxitic flow banding=.FOLIFE.  
 igneous foliation, flow foliation=.FOLIF.  
 igneous foliation, flow foliation, oriented lapilli=.FOLIFL.  
 igneous foliation, flow foliation, oriented mineral grains=.FOLIFG.  
 igneous foliation, flow foliation, oriented schlieren=.FOLIFS.  
 igneous foliation, flow foliation, oriented xenoliths=.FOLIFX.  
 igneous foliation, flow foliation, unspecified type=.FOLIFU.  
 igneous foliation, unspecified origin=.FOLIU.  
 igneous foliation, welding in ash-flow tuff=.FOLIW.

igneous lineation=.LINI.

igneous lineation, flow related=.LINIF.

igneous lineation, flow related, aligned mineral grains=.LINIFA.

imbrication of clasts, lineation in sedimentary rock=.LINSPEC.

inclined planar or linear element, linear=.GEML.

inclined planar or linear element, linear, lineation=.GEML.

inclined planar or linear element, planar=.GEMP.

inclined planar or linear element, planar, bedding=.GEMPIB.

inclined planar or linear element, planar, cleavage=.GEMPIC.

inclined planar or linear element, planar, foliation=.GEMPIF.

inclined planar or linear element, planar, jointing=.GEMPIJ.

intersection of bedding and cleavage, lineation formed by in sedimentary rock=.LINSI.

intersection of foliation and cleavage, lineation formed by in metamorphic rock=.LINMI.

isotopic-age station=.PNTAVI.

isotopic-age station, Ar40/39 determination=.PNTAVIF.

isotopic-age station, C14 determination=.PNTAVIC.

isotopic-age station, fission track determination=.PNTAVIT.

isotopic-age station, K/Ar determination=.PNTAVIK.

isotopic-age station, U/Pb determination=.PNTAVIU.

joint=.JNT.

joint in igneous rock=.JNTI.

joint in igneous rock, plutonic=.JNTIP.

joint in igneous rock, volcanic=.JNTIV.

joint in sedimentary rock=.JNTS.

Jurassic=.MZOJ.

Jurassic, early=.MZOJE.

Jurassic, late=.MZOJL.

kink-band fold lineation, igneous rock=.LINAIIK.

kink-band fold lineation, metamorphic rock=.LINAMK.

kink-band fold lineation, sedimentary rock=.LINASK.

kink-band fold lineation, strain-dominated rock=.LINADK.

knife-edge geologic contact attribute=.PNTACOK.

left-lateral fault arrows=.PNTAFAL.

lineation=.LIN.

lineation, on fault surface=.LINF.

lineation, on fault surface, fault-slip-direction indicator=.LINFS.

lineation, on fault surface, fault-slip-direction indicator, bi-directional=.LINFSB.

lineation, on fault surface, fault-slip-direction indicator, bi-directional, groove=.LINFSBG.

lineation, on fault surface, fault-slip-direction indicator, bi-directional, striation=.LINFSBS.

lineation, on fault surface, fault-slip-direction indicator, uni-directional=.LINFSU.

lineation, on fault surface, fault-slip-direction indicator, uni-directional, mullion=.LINFSUM.

lineation, on fault surface, fault-slip-direction indicator, uni-directional, slickenside=.LINFSUS.

lineation, igneous=.LINI.

lineation, igneous, flow-related=.LINIF.

lineation, igneous, flow-related, aligned mineral grains=.LINIFA.

lineation, metamorphic=.LINM.

lineation, metamorphic, aligned mineral grains=.LINMA.

lineation, metamorphic, boudinage=.LINMB.

lineation, metamorphic, crushed and streaked mineral grains=.LINMC.

lineation, metamorphic, crushed and streaked mineral grains together with aligned mineral grains=.LINMCA.

lineation, metamorphic, crushed and streaked mineral grains together with rodding=.LINMCR.  
 lineation, metamorphic, intersection of foliation and cleavage, metamorphic=.LINMI.  
 lineation, metamorphic, rodding=.LINMR.

lineation, minor-fold axis=.LINA.  
 lineation, minor-fold axis, igneous rock=.LINAI.  
 lineation, minor-fold axis, igneous rock, kink-band fold=.LINAIIK.  
 lineation, minor-fold axis, metamorphic rock=.LINAM.  
 lineation, minor-fold axis, metamorphic rock, kink-band fold=.LINAMK.  
 lineation, minor-fold axis, sedimentary rock=.LINAS.  
 lineation, minor-fold axis, sedimentary rock, kink-band fold=.LINASK.  
 lineation, minor-fold axis, sedimentary rock, soft-sediment-slump fold=.LINASS.

lineation, sedimentary=.LINS.  
 lineation, sedimentary, paleocurrent lineation=.LINS.  
 lineation, sedimentary, paleocurrent lineation, bi-directional=.LINSB.  
 lineation, sedimentary, paleocurrent lineation, bi-directional, sole marks=.LISPBS.  
 lineation, sedimentary, paleocurrent lineation, uni-directional=.LISPU.  
 lineation, sedimentary, paleocurrent lineation, uni-directional, cross bedding=.LISPUX.  
 lineation, sedimentary, paleocurrent lineation, uni-directional, clast imbrication=.LISPUC.

lineation, strain-dominated=.LIND.  
 lineation, strain-dominated, aligned mineral grains=.LINDA.  
 lineation, strain-dominated, crushed and streaked mineral grains=.LINDC.  
 lineation, strain-dominated, crushed and streaked mineral grains together with aligned mineral grains=.LINDCA.  
 lineation, strain-dominated, crushed and streaked mineral grains together with rodding=.LINDCR.  
 lineation, strain-dominated, intersection of foliation and cleavage=.LINDI.  
 lineation, strain-dominated, rodding=.LINDR.

lapilli, foliation of=.FOLIFL.

lithologic-description station=.PNTAVL.

magnetic-susceptibility determination=.PNTAVGM.  
 massive texture (igneous)=.PNTAM.  
 measured determination of azimuth and dip=.ADPM.

Mesozoic=.MZO.

metamorphic foliation=.FOLM.  
 metamorphic foliation, crenulated=.FOLMC.  
 metamorphic foliation, crinkled=.FOLMK.  
 metamorphic foliation, gneissosity=.FOLMG.  
 metamorphic foliation, schistosity=.FOLMS.  
 metamorphic foliation, undulatory=.FOLMN.  
 metamorphic foliation, wavy=.FOLMW.

metamorphic lineation=.LINM.  
 metamorphic lineation, aligned mineral grains=.LINMA.  
 metamorphic lineation, boudinage=.LINMB.  
 metamorphic lineation, crushed and streaked mineral grains=.LINMC.  
 metamorphic lineation, crushed and streaked mineral grains together with rodding=.LINMCR.  
 metamorphic lineation, crushed and streaked mineral grains together with aligned mineral grains=.LINMCA.  
 metamorphic lineation, intersection of foliation and cleavage, metamorphic=.LINMI.  
 metamorphic lineation, rodding=.LINMR.

mineral grains, oriented due to igneous flow=.FOLIFG.  
 mineral grains, aligned due to metamorphism=.LINMA.

minor-fold-axis lineation=.LINA.  
 minor-fold-axis lineation, in igneous rock=.LINAI.  
 minor-fold-axis lineation, in igneous rock, kink-band fold=.LINAIIK.  
 minor-fold-axis lineation, in metamorphic rock=.LINAM.  
 minor-fold-axis lineation, in metamorphic rock, kink-band fold=.LINAMK.  
 minor-fold-axis lineation, in sedimentary rock=.LINAS.

minor-fold-axis lineation, in sedimentary rock, kink-band fold=.LINASK.  
 minor-fold-axis lineation, in sedimentary rock, soft-sediment-slump fold=.LINASS.  
 minor-fold-axis lineation, in strain-dominated rock=.LINAD.  
 minor-fold-axis lineation, in strain-dominated rock, kink-band fold=.LINADK.

Miocene=.CZOTM.  
 Miocene, early=.CZOTME.  
 Miocene, late=.CZOTML.  
 Miocene, middle=.CZOTMM.  
 Mississippian=.PZOM.  
 Mississippian, early=.PZOME.  
 Mississippian, late=.PZOML.

modal-mineralogy determination=.PNTAVM.  
 modal-mineralogy determination, stained-slab=.PNTAVMS.  
 modal-mineralogy determination, thin-section=.PNTAVMT.

Modern=.CZOQHD.

Mullion, lineation on fault surface=.LINFSUM.  
 mylonitic foliation or lineation in strain-dominated rock=.FOLDM.

Neogene=.NGN.

observation-station=.PNTAV.  
 observation-station, annotation site=.PNTAVA.  
 observation-station, fossil obervation=.PNTAVF.  
 observation-station, fossil obervation, fossil collection=.PNTAVFC.  
 observation-station, fossil obervation, fossil description=.PNTAVFD.  
 observation-station, fossil obervation, fossils observed=.PNTAVFO.  
 observation-station, generic observation=.PNTAVV.  
 observation-station, geochemistry determination=.PNTAVC.  
 observation-station, isotopic-age determination=.PNTAVI.  
 observation-station, isotopic-age determination, Ar40/39 determination=.PNTAVIF.  
 observation-station, isotopic-age determination, C14 determination=.PNTAVIC.  
 observation-station, isotopic-age determination, fission track determination=.PNTAVIT.  
 observation-station, isotopic-age determination, K/Ar determination=.PNTAVIK.  
 observation-station, isotopic-age determination, U/Pb determination=.PNTAVIU.  
 observation-station, geophysical measurement=.PNTAVG.  
 observation-station, geophysical measurement, gravity determination=.PNTAVGG.  
 observation-station, geophysical measurement, magnetic-susceptibility determination=.PNTAVGM.  
 observation-station, lithologic description=.PNTAVL.  
 observation-station, modal-mineralogy determination=.PNTAVM.  
 observation-station, modal-mineralogy determination, stained-slab observation=.PNTAVMS.  
 observation-station, modal-mineralogy determination, thin-section observation=.PNTAVMT.  
 observation-station, paleomagnetic measurement=.PNTAVN.  
 observation-station, pedogenic-soil observation=.PNTAVPD.  
 observation-station, pedogenic-soil observation, soil profile described=.PNTAVPD.  
 observation-station, pedogenic-soil observation, soil profile examined=.PNTAVPE.  
 observation-station, subsurface-boring site=.PNTAVS.

Oligocene=.CZOTO.  
 Oligocene, early=.CZOTOE.  
 Oligocene, late=.CZOTOL.

one cleavage=.CLVO.

Ordovician=.PZOO.  
 Ordovician, early=.PZOOE.  
 Ordovician, late=.PZOOL.

original data=.DATO.

overturned planar or linear element, planar=.GEMPO.  
 overturned planar or linear element, planar, bedding=.GEMPOB.

overturned planar or linear element, planar, cleavage=.GEMPOC.  
 overturned planar or linear element, planar, foliation=.GEMPOF.  
 overturned planar or linear element, planar, jointing=.GEMPOJ.

overturned planar or linear element, fold axial plane=.PNTAONAO.

Paleocene=.CZOTA.  
 Paleocene, early=.CZOTAE.  
 Paleocene, late=.CZOTAL.

paleocurrent direction, lineation in sedimentary rock=.LINS.  
 paleocurrent direction, lineation in sedimentary rock, bidirectional=.LNSPB.  
 paleocurrent direction, lineation in sedimentary rock, bidirectional, sole marks=.LNSPBS.  
 paleocurrent direction, lineation in sedimentary rock, unidirectional=.LNSPU.  
 paleocurrent direction, lineation in sedimentary rock, unidirectional, cross bedding=.LNSPUX.  
 paleocurrent direction, lineation in sedimentary rock, unidirectional, clast imbrication=.LNSPUC.

Paleogene=.PGN.

paleomagnetic-measurement station=.PNTAVN.

Paleozoic=.PZO.  
 Paleozoic, early=.PZOE.  
 Paleozoic, late=.PZOL.  
 Paleozoic, middle=.PZOI.  
 Pennsylvanian=.PZOP.  
 Pennsylvanian, early=.PZOP.  
 Pennsylvanian, late=.PZOPL.  
 Permian=.PZOR.  
 Permian, early=.PZORE.  
 Permian, late=.PZORL.

planar geologic feature, analyzable=.PNTZP.  
 planar geologic feature, analyzable, bedding attitude=.BED.  
 planar geologic feature, analyzable, cleavage attitude=.CLV.  
 planar geologic feature, analyzable, foliation attitude=.FOL  
 planar geologic feature, analyzable, joint attitude=.JNT.

planar geologic feature, analyzable, mapped feature, contact dip direction and amount=.PNTZPMC.  
 planar geologic feature, analyzable, mapped feature, dike dip direction and amount=.PNTZPM.  
 planar geologic feature, analyzable, mapped feature, fault dip direction and amount=.PNTZPMF.  
 planar geologic feature, analyzable, mapped feature, fold axial-plane dip direction and amount=.PNTZPMO.  
 planar geologic feature, analyzable, mapped feature, vein dip direction and amount=.PNTZPMV.

Pleistocene=.CZOQP.  
 Pleistocene, early=.CZOQPE.  
 Pleistocene, late=.CZOQPL.  
 Pleistocene, middle=.CZOQPM.  
 Pliocene=.CZOTP.  
 Pliocene, early=.CZOTPE.  
 Pliocene, late=.CZOTPL.

plunge direction of fold hinge, annotation symbol=.PNTAOH.  
 plunge direction of fold hinge, fold-form not determined, annotation symbol=.PNTAOHN.  
 plunge direction of fold hinge, fold-form not determined, antiform, annotation symbol=.PNTAOHNA.  
 plunge direction of fold hinge, fold-form not determined, synform, annotation symbol=.PNTAOHNS.

plunge direction of fold hinge, fold form determined, annotation symbol=.PNTAOHD.  
 plunge direction of fold hinge, fold form determined, anticline, annotation symbol=.PNTAOHDA.  
 plunge direction of fold hinge, fold form determined, syncline, annotation symbol=.PNTAOHDS.

plunge direction of fold hinge, refolded fold, annotation symbol=.PNTAOHR.  
 plunge direction of fold hinge, refolded fold, fold form not determined, annotation symbol=.PNTAOHRN.  
 plunge direction of fold hinge, refolded fold, fold form determined, annotation symbol=.PNTAOHRD.

plunge direction of fold hinge, refolded fold, fold form determined, antiformal syncline, annotation symbol=.PNTAOHRDA.

plunge direction of fold hinge, refolded fold, fold form determined, synformal anticline, annotation symbol=.PNTAOHRDS.

plutonic foliation=.FOLIV.

plutonic joint=.PLT.

Precambrian=.PRC.

Proterozoic=.PRCP.

Proterozoic, early=.PRCPE.

Proterozoic, late=.PRCPL.

Proterozoic, middle=.PRCPM.

Pseudotachylitic foliation in strain-dominated rock=.FOLDP.

refolded fold=.PNTAOR.

refolded fold, fold form not determined=.PNTAORN.

refolded fold, fold form determined=.PNTAORD.

refolded fold, fold form determined, antiformal syncline=.PNTAORDA.

refolded fold, fold form determined, synformal anticline=.PNTAORDS.

right-lateral fault arrows=.PNTAFAR.

rodding lineation in metamorphic rock=.LINMR.

rodding lineation in strain-dominated rock=.LINDR.

rootless fold hinge=.GEMLANR.

rootless fold hinge, antiformal=.GEMLANRA.

rootless fold hinge, synformal=.GEMLANRS.

rotation sense not determined=.GEMLADN.

schistosity, foliation in metamorphic rock=.FOLMS.

schlieren, oriented, foliation in igneous rock=.FOLIFS.

sedimentary bedding=.BEDS.

sedimentary lineation=.LINS.

Silurian=.PZOS.

Silurian, early=.PZOSE.

Silurian, late=.PZOSL.

sinistral rotation indicated by minor-fold-axis lineation=.GEMLADS.

slickenside, lineation on fault surface=.LINFSUS.

soil-profile observation station=.PNTAVP.

soil-profile observation station, profile described=.PNTAVPD.

soil-profile observation station, profile examined=.PNTAVPE.

sole mark=.LNSPBS.

strain-dominated foliation=.FOLD.

strain-dominated lineation=.LIND.

strike-and-dip direction=.ADP.

strike-and-dip direction, measured at site=.ADPM.

strike-and-dip direction, approximated=.ADPA.

strike-and-dip direction, approximated, indicated but not measured=.ADPAI.

strike-and-dip direction, approximated, estimated but not measured=.ADPAE.

strike-and-dip direction, approximated, estimated from binocular observation=.ADPAEB.

strike-and-dip direction, approximated, estimated from aerial photographs=.ADPAEA.

striation on fault surface, lineation=.LINFSBS.

strike-slip fault arrows, annotation symbol=.PNTAFA.

strike-slip fault arrows, annotation symbol, left-lateral=.PNTAFAL.  
strike-slip fault arrows, annotation symbol, right-lateral=.PNTAFAR.

subsurface boring site=.PNTAVS.

synformal minor-fold-axis lineation=.GEMLANS.

Tertiary=.CZOT.

tops of beds determined, facing of inclined sedimentary and volcanogenic bedding=.GEMPIBT.  
tops of beds not determined, facing of inclined sedimentary and volcanogenic bedding=.GEMPIBN.  
tops of beds determined, facing of overturned sedimentary and volcanogenic bedding=.GEMPOBT.  
tops of beds not determined, facing of overturned sedimentary and volcanogenic bedding=.GEMPOBN.  
tops of beds determined, facing of vertical sedimentary and volcanogenic bedding=.GEMPVBT.  
tops of beds not determined, facing of vertical sedimentary and volcanogenic bedding=.GEMPVBN.

Triassic=.MZOT.

Triassic, early=.MZOTE.

Triassic, late=.MZOTL.

two lineations normal to each other=.GEMLTN.  
two lineations parallel to each other=.GEMLTP.

undulatory foliation, metamorphic=.FOLMN.

upright axial plane=.PNTAONAU.

vein dip direction and amount=.PNTZPMV.

vertical planar or linear element, bedding=.GEMPVB.  
vertical planar or linear element, cleavage=.GEMPVC.  
vertical planar or linear element, foliation=.GEMPVF.  
vertical planar or linear element, joint=.GEMPVJ.

volcanic foliation or lineation=.FOLIV.

volcanogenic sedimentary rock=.BEDV.

wavy foliation in metamorphic rock=.FOLMW.  
wavy or crinkled bedding, sedimentary rock=.BEDSW.  
wavy or crinkled bedding, volcanogenic rock=.BEDVW.

xenoliths, foliation of=.FOLIFX.

**POINT-ATTRIBUTE CODES (alphabetic listing by code)****Version 2.0****U.S. Geological Survey, Southern California Areal Mapping Project**

.ABC.=basis for geologic-age assignment  
 .ABCC.=basis for geologic-age assignment, age based on regional correlation  
 .ABCCC.=basis for geologic-age assignment, age based on regional correlation, age certain  
 .ABCCL.=basis for geologic-age assignment, age based on regional correlation, age likely but not confirmed  
 .ABCCU.=basis for geologic-age assignment, age based on regional correlation, age uncertain  
 .ABCD.=basis for geologic-age assignment, age based on pedogenic-soil development  
 .ABCDC.=basis for geologic-age assignment, age based on pedogenic-soil development, age certain  
 .ABCDL.=basis for geologic-age assignment, age based on pedogenic-soil development, age likely but not confirmed  
 .ABCDU.=basis for geologic-age assignment, age based on pedogenic-soil development, age uncertain  
 .ABCF.=basis for geologic-age assignment, age based on fossils  
 .ABCFC.=basis for geologic-age assignment, age based on fossils, age certain  
 .ABCFL.=basis for geologic-age assignment, age based on fossils, age likely but not confirmed  
 .ABCFU.=basis for geologic-age assignment, age based on fossils, age uncertain  
 .ABCG.=basis for geologic-age assignment, age based on geomorphic development  
 .ABCAC.=basis for geologic-age assignment, age based on geomorphic development, age certain  
 .ABCGL.=basis for geologic-age assignment, age based on geomorphic development, age likely but not confirmed  
 .ABCGU.=basis for geologic-age assignment, age based on geomorphic development, age uncertain  
 .ABCJ.=basis for geologic-age assignment, age based on isotopic analysis  
 .ABCIC.=basis for geologic-age assignment, age based on isotopic data, age certain  
 .ABCIL.=basis for geologic-age assignment, age based on isotopic data, age likely but not confirmed  
 .ABCIU.=basis for geologic-age assignment, age based on isotopic data, age uncertain  
 .ABCP.=basis for geologic-age assignment, age based on paleomagnetism  
 .ABCPC.=basis for geologic-age assignment, age based on paleomagnetism, age certain  
 .ABCPL.=basis for geologic-age assignment, age based on paleomagnetism, age likely but not confirmed  
 .ABCPU.=basis for geologic-age assignment, age based on paleomagnetism, age uncertain  
 .ABCR.=basis for geologic-age assignment, age based on intrusive relations  
 .ABCRC.=basis for geologic-age assignment, age based on intrusive relations, age certain  
 .ABCRL.=basis for geologic-age assignment, age based on intrusive relations, age likely but not confirmed  
 .ABCRU.=basis for geologic-age assignment, age based on intrusive relations, age uncertain  
 .ABCS.=basis for geologic-age assignment, age based on stratigraphic relations  
 .ABCSC.=basis for geologic-age assignment, age based on stratigraphic relations, age certain  
 .ABCSL.=basis for geologic-age assignment, age based on stratigraphic relations, age likely but not confirmed  
 .ABCSU.=basis for geologic-age assignment, age based on stratigraphic relations, age uncertain  
 .ABCT.=basis for geologic-age assignment, age based on tephrochronology  
 .ABCTC.=basis for geologic-age assignment, age based on tephrochronology, age certain  
 .ABCTL.=basis for geologic-age assignment, age based on tephrochronology, age likely but not confirmed  
 .ABCTU.=basis for geologic-age assignment, age based on tephrochronology, age uncertain  
 .ADP.=azimuth and dip determination, integrity  
 .ADPA.=azimuth and dip determination, integrity, approximated  
 .ADPAE.=azimuth and dip determination, integrity, approximated, estimated, but not measured  
 .ADPAEA.=azimuth and dip determination, integrity, approximated, estimated, from aerial photographs  
 .ADPAEB.=azimuth and dip determination, integrity, approximated, estimated, from binocular observation  
 .ADPAI.=azimuth and dip determination, integrity, approximated, indicated but not measured  
 .ADPM.=azimuth and dip determination, integrity, measured at site

.BED.=geologic-point feature, analyzable, planar, bedding  
 .BEDS.=geologic-point feature, analyzable, planar, bedding, sedimentary  
 .BEDSW.=geologic-point feature, analyzable, planar, bedding, sedimentary, wavy or crinkled  
 .BEDV.=geologic-point feature, analyzable, planar, bedding, volcanogenic  
 .BEDVW.=geologic-point feature, analyzable, planar, bedding, volcanogenic, wavy or crinkled

.CLV.=geologic-point feature, analyzable, planar, cleavage  
 .CLVO.=geologic-point feature, analyzable, planar, cleavage, one cleavage direction  
 .CLVT.=geologic-point feature, analyzable, planar, cleavage, two cleavage directions  
 .CZO.=geologic age, Cenozoic  
 .CZOQH.=geologic age, Holocene  
 .CZOQHD.=geologic age, Modern

.CZOQHE.=geologic age, Holocene, early  
 .CZOQHL.=geologic age, Holocene, late  
 .CZOQHM.=geologic age, Holocene, middle  
 .CZOQP.=geologic age, Pleistocene  
 .CZOQPE.=geologic age, Pleistocene, early  
 .CZOQPL.=geologic age, Pleistocene, late  
 .CZOQPM.=geologic age, Pleistocene, middle  
 .CZOT.=geologic age, Tertiary  
 .CZOTA.=geologic age, Paleocene  
 .CZOTAE.=geologic age, Paleocene, early  
 .CZOTAL.=geologic age, Paleocene, late  
 .CZOTE.=geologic age, Eocene  
 .CZOTEE.=geologic age, Eocene, early  
 .CZOTEL.=geologic age, Eocene, late  
 .CZOTEM.=geologic age, Eocene, middle  
 .CZOTM.=geologic age, Miocene  
 .CZOTME.=geologic age, Miocene, early  
 .CZOTML.=geologic age, Miocene, late  
 .CZOTMM.=geologic age, Miocene, middle  
 .CZOTO.=geologic age, Oligocene  
 .CZOTOE.=geologic age, Oligocene, early  
 .CZOTOL.=geologic age, Oligocene, late  
 .CZOTP.=geologic age, Pliocene  
 .CZOTPE.=geologic age, Pliocene, early  
 .CZOTPL.=geologic age, Pliocene, late

.DAT.=source of geologic information

.DATC.=source of geologic information, compiled from non-SCAMP sources

.DATO.=source of geologic information, generated by SCAMP map authors

.FOL.=geologic-point feature, analyzable, planar, foliation in crystalline rock  
 .FOLD.=geologic-point feature, analyzable, planar, foliation in crystalline rock, strain-dominated  
 .FOLDC.=geologic-point feature, analyzable, planar, foliation in crystalline rock, strain-dominated, cataclastic foliation  
 .FOLDM.=geologic-point feature, analyzable, planar, foliation in crystalline rock, strain-dominated, mylonitic foliation  
 .FOLDP.=geologic-point feature, analyzable, planar, foliation in crystalline rock, strain-dominated, pseudotachylitic  
 .FOLI.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous  
 .FOLIC.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, cumulate layering  
 .FOLIF.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, flow foliation  
 .FOLIFE.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, flow foliation, eutaxitic flow banding  
 .FOLIFG.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, flow foliation, oriented mineral grains  
 .FOLIFL.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, flow foliation, oriented lapilli  
 .FOLIFS.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, flow foliation, oriented schlieren  
 .FOLIFU.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, flow foliation, unspecified type  
 .FOLIFX.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, flow foliation, oriented xenoliths  
 .FOLIP.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, in plutonic rock  
 .FOLIU.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, unspecified origin  
 .FOLIV.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, in volcanic rock  
 .FOLIW.=geologic-point feature, analyzable, planar, foliation in crystalline rock, igneous, welding in ash-flow tuff  
 .FOLM.=geologic-point feature, analyzable, planar, foliation in crystalline rock, metamorphic  
 .FOLMC.=geologic-point feature, analyzable, planar, foliation in crystalline rock, metamorphic, crenulated  
 .FOLMG.=geologic-point feature, analyzable, planar, foliation in crystalline rock, metamorphic, gneissose layering  
 .FOLMK.=geologic-point feature, analyzable, planar, foliation in crystalline rock, metamorphic, crinkled  
 .FOLMN.=geologic-point feature, analyzable, planar, foliation in crystalline rock, metamorphic, undulatory  
 .FOLMS.=geologic-point feature, analyzable, planar, foliation in crystalline rock, metamorphic, schistose fabric  
 .FOLMU.=geologic-point feature, analyzable, planar, foliation in crystalline rock, metamorphic, type unspecified  
 .FOLMW.=geologic-point feature, analyzable, planar, foliation in crystalline rock, metamorphic, wavy  
 .FOLN.=geologic-point feature, analyzable, planar, foliation in crystalline rock, origin not determined  
 .FOLNG.=geologic-point feature, analyzable, planar, foliation in crystalline rock, origin not determined, gneissose

.FOLNM.=geologic-point feature, analyzable, planar, foliation in crystalline rock, origin not determined, mineral foliation

.GEM.=geometry of planar or linear element  
 .GEML.=geometry of planar or linear element, linear  
 .GELMA.=geometry of planar or linear element, linear, minor-fold-axis lineation  
 .GEMLAD.=geometry of planar or linear element, linear, minor-fold-axis lineation, fold geometry determined  
 .GEMLADD.=geometry of planar or linear element, linear, minor-fold-axis lineation, fold geometry determined, rotation sense dextral  
 .GEMLADN.=geometry of planar or linear element, linear, minor-fold-axis lineation, fold geometry not determined  
 .GEMLADS.=geometry of planar or linear element, linear, minor-fold-axis lineation, fold geometry determined, rotation sense sinistral  
 .GEMLANA.=geometry of planar or linear element, linear, minor-fold-axis lineation, fold geometry not determined, antiformal  
 .GEMLANR.=geometry of planar or linear element, linear, minor-fold-axis lineation, fold geometry not determined, rootless fold  
 .GEMLANRA.=geometry of planar or linear element, linear, minor-fold-axis lineation, fold geometry not determined, rootless fold, antiformal  
 .GEMLANRS.=geometry of planar or linear element, linear, minor-fold-axis lineation, fold geometry not determined, rootless fold, synformal  
 .GEMLANS.=geometry of planar or linear element, linear, minor-fold-axis lineation, fold geometry not determined, synformal  
 .GEMLH.=geometry of planar or linear element, linear, lineation, horizontal  
 .GEMLHI.=geometry of planar or linear element, linear, lineation, horizontal in plane of inclined foliation  
 .GEMLHID.=geometry of planar or linear element, linear, lineation, horizontal in plane of inclined foliation, strain-dominated  
 .GEMLHII.=geometry of planar or linear element, linear, lineation, horizontal in plane of inclined foliation, igneous rock  
 .GEMLHIM.=geometry of planar or linear element, linear, lineation, horizontal in plane of inclined foliation, metamorphic rock  
 .GEMLHV.=geometry of planar or linear element, linear, lineation, horizontal in plane of vertical foliation  
 .GEMLHVD.=geometry of planar or linear element, linear, lineation, horizontal in plane of vertical foliation, strain-dominated rock  
 .GEMLHVI.=geometry of planar or linear element, linear, lineation, horizontal in plane of vertical foliation, igneous rock  
 .GEMLHVM.=geometry of planar or linear element, linear, lineation, horizontal in plane of vertical foliation, metamorphic rock  
 .GEMLN.=geometry of planar or linear element, linear, lineation, geometry not determined  
 .GEMLT.=geometry of planar or linear element, linear, lineation, two lineations  
 .GEMLTN.=geometry of planar or linear element, linear, lineation, two lineations, normal to each other  
 .GEMLTP.=geometry of planar or linear element, linear, lineation, two lineations, parallel to each other  
 .GEMP.=geometry of planar or linear element, planar  
 .GEMPH.=geometry of planar or linear element, planar, horizontal  
 .GEMPHB.=geometry of planar or linear element, planar, horizontal, bedding  
 .GEMPHBT.=geometry of planar or linear element, planar, horizontal, bedding, top of beds determined from facing structures  
 .GEMPHBU.=geometry of planar or linear element, planar, horizontal, bedding, top of beds unknown  
 .GEMPHC.=geometry of planar or linear element, planar, horizontal, cleavage  
 .GEMPHF.=geometry of planar or linear element, planar, horizontal, foliation  
 .GEMPHJ.=geometry of planar or linear element, planar, horizontal, joint  
 .GEMPHJ.=orientation of planar or linear element, horizontal, jointing  
 .GEMPI.=geometry of planar or linear element, planar, inclined  
 .GEMPIB.=geometry of planar or linear element, planar, inclined, bedding  
 .GEMPIBT.=geometry of planar or linear element, planar, inclined, bedding, top of beds determined from facing structures  
 .GEMPIBU.=geometry of planar or linear element, planar, inclined, bedding, top of beds unknown  
 .GEMPIC.=geometry of planar or linear element, planar, inclined, cleavage  
 .GEMPIF.=geometry of planar or linear element, planar, inclined, foliation  
 .GEMPIJ.=geometry of planar or linear element, planar, inclined, joint  
 .GEMPO.=geometry of planar or linear element, planar, overturned  
 .GEMPOB.=geometry of planar or linear element, planar, overturned, bedding  
 .GEMPOBT.=geometry of planar or linear element, planar, overturned, bedding, top of beds determined from facing structures  
 .GEMPOBU.=geometry of planar or linear element, planar, overturned, bedding, top of beds unknown  
 .GEMPOC.=geometry of planar or linear element, planar, overturned, cleavage

.GEMPOF.=geometry of planar or linear element, planar, overturned, foliation  
 .GEMPOJ.=geometry of planar or linear element, planar, overturned, jointing  
 .GEMPV.=geometry of planar or linear element, planar, vertical  
 .GEMPVB.=geometry of planar or linear element, planar, vertical, bedding  
 .GEMPVBT.=geometry of planar or linear element, planar, vertical, bedding, top of beds determined from facing structures  
 .GEMPVBU.=geometry of planar or linear element, planar, vertical, bedding, top of beds unknown  
 .GEMPVC.=geometry of planar or linear element, planar, vertical, cleavage  
 .GEMPVF.=geometry of planar or linear element, planar, vertical, foliation  
 .GEMPVJ.=geometry of planar or linear element, planar, vertical, joint

.JNT.=geologic-point feature, analyzable, planar, joint  
 .JNTI.=geologic-point feature, analyzable, planar, joint in igneous rock  
 .JNTIP.=geologic-point feature, analyzable, planar, joint in igneous rock, plutonic  
 .JNTIV.=geologic-point feature, analyzable, planar, joint in igneous rock, volcanic  
 .JNTS.=geologic-point feature, analyzable, planar, joint in sedimentary rock

.LIN.=geologic-point feature, analyzable, lineation  
 .LINA.=geologic-point feature, analyzable, lineation, minor-fold axis  
 .LINAD.=geologic-point feature, analyzable, lineation, minor-fold axis in strain-dominated rock  
 .LINADK.=geologic-point feature, analyzable, lineation, minor-fold axis in strain-dominated rock, kink-band fold  
 .LINA1.=geologic-point feature, analyzable, lineation, minor-fold axis in igneous rock  
 .LINA1K.=geologic-point feature, analyzable, lineation, minor-fold axis in igneous rock, kink-band fold  
 .LINA1M.=geologic-point feature, analyzable, lineation, minor-fold axis in metamorphic rock  
 .LINA1MK.=geologic-point feature, analyzable, lineation, minor-fold axis in metamorphic rock, kink-band fold  
 .LINA1S.=geologic-point feature, analyzable, lineation, minor-fold axis in sedimentary rock  
 .LINA1SK.=geologic-point feature, analyzable, lineation, minor-fold axis in sedimentary rock, kink-band fold  
 .LINA1SS.=geologic-point feature, analyzable, lineation, minor-fold axis in sedimentary rock, soft-sediment slump  
 .LIND.=geologic-point feature, analyzable, lineation, in strain-dominated rock  
 .LINDA.=geologic-point feature, analyzable, lineation in strain-dominated rock, aligned mineral grains  
 .LINDC.=geologic-point feature, analyzable, lineation, in strain-dominated rock, crushed and streaked mineral grains  
 .LINDCA.=geologic-point feature, analyzable, lineation, in strain-dominated rock, crushed and streaked mineral grains & aligned mineral grains  
 .LINDCR.=geologic-point feature, analyzable, lineation, in strain-dominated rock, crushed and streaked mineral grains & rodding  
 .LINDI.=geologic-point feature, analyzable, lineation, in strain-dominated rock, intersection of foliation and cleavage  
 .LINDR.=geologic-point feature, analyzable, lineation, in strain-dominated rock, rodding  
 .LINF.=geologic-point feature, analyzable, lineation, on fault surface  
 .LINF.=geologic-point feature, analyzable, lineation, on fault surface, slip-direction indicator  
 .LINF SB.=geologic-point feature, analyzable, lineation, on fault surface, slip-direction indicator, bi-directional  
 .LINF SBG.=geologic-point feature, analyzable, lineation, on fault surface, slip-direction indicator, bi-directional, groove  
 .LINF SBS.=geologic-point feature, analyzable, lineation, on fault surface, slip-direction indicator, bi-directional, striation  
 .LINF SU.=geologic-point feature, analyzable, lineation, on fault surface, slip-direction indicator, uni-directional  
 .LINF SUM.=geologic-point feature, analyzable, lineation, on fault surface, slip-direction indicator, uni-directional, mullion  
 .LINF SUS.=geologic-point feature, analyzable, lineation, on fault surface, slip-direction indicator, uni-directional, slickenside  
 .LINI.=geologic-point feature, analyzable, lineation, in igneous rock  
 .LINIF.=geologic-point feature, analyzable, lineation, in igneous rock, flow lineation  
 .LINIFA.=geologic-point feature, analyzable, lineation, in igneous rock, flow lineation, aligned mineral grains  
 .LINM.=geologic-point feature, analyzable, lineation, in metamorphic rock  
 .LINMA.=geologic-point feature, analyzable, lineation, in metamorphic rock, aligned mineral grains  
 .LINMB.=geologic-point feature, analyzable, lineation, boudinage  
 .LINMI.=geologic-point feature, analyzable, lineation, in metamorphic rock, intersection of foliation and cleavage  
 .LINMR.=geologic-point feature, analyzable, lineation, in metamorphic rock, rodding  
 .LINS.=geologic-point feature, analyzable, lineation, in sedimentary rock  
 .LNSA.=geologic-point feature, analyzable, lineation, in sedimentary rock, aligned mineral grains  
 .LNSI.=geologic-point feature, analyzable, lineation, in sedimentary rock, intersection of bedding and cleavage  
 .LNSP.=geologic-point feature, analyzable, lineation, in sedimentary rock, paleocurrent direction  
 .LNSPB.=geologic-point feature, analyzable, lineation, in sedimentary rock, paleocurrent direction, bidirectional  
 .LNSPBG.=geologic-point feature, analyzable, lineation, in sedimentary rock, paleocurrent direction, bidirectional, glacial striation

.LINSPBS.=geologic-point feature, analyzable, lineation, in sedimentary rock, paleocurrent direction, bidirectional, sole mark  
 .LINSPU.=geologic-point feature, analyzable, lineation, in sedimentary rock, paleocurrent direction, unidirectional  
 .LINSPUC.=geologic-point feature, analyzable, lineation, in sedimentary rock, paleocurrent direction, unidirectional, clast imbrication  
 .LINSPUX.=geologic-point feature, analyzable, lineation, in sedimentary rock, paleocurrent direction, unidirectional, cross bedding  
 .LINSR.=geologic-point feature, analyzable, lineation, in sedimentary rock, rodding

.MZO.=geologic age, Mesozoic  
 .MZOJ.=geologic age, Jurassic  
 .MZOJE.=geologic age, Jurassic, early  
 .MZOJL.=geologic age, Jurassic, late  
 .MZOK.=geologic age, Cretaceous  
 .MZOKE.=geologic age, Cretaceous, early  
 .MZOKL.=geologic age, Cretaceous, late  
 .MZOT.=geologic age, Triassic  
 .MZOTE.=geologic age, Triassic, early  
 .MZOTL.=geologic age, Triassic, late

.NGN.=geologic age, Neogene

.PGN.=geologic age, Paleogene  
 .PNT.=geologic-point feature  
 .PTA.=geologic-point feature, annotation  
 .PTAC.=geologic-point attribute, information about geologic contact  
 .PTACO.=geologic-point feature, annotation, information about geologic contact, observable contact  
 .PTACOG.=geologic-point feature, annotation, information about geologic contact, observable contact, gradational  
 .PTACOK.=geologic-point feature, annotation, information about geologic contact, observable contact, knife-edge  
 .PTACOT.=geologic-point feature, annotation, information about geologic contact, observable contact, transitional  
 .PTAF.=geologic-point feature, annotation, fault symbol  
 .PTAFA.=geologic-point feature, annotation, fault symbol, strike-slip arrows  
 .PTAFAL.=geologic-point feature, annotation, fault symbol, strike-slip arrows, left-lateral  
 .PTAFAR.=geologic-point feature, annotation, fault symbol, strike-slip arrows, right-lateral  
 .PTAFB.=geologic-point feature, annotation, fault symbol, bar and ball on down-dropped fault block  
 .PTAFL.=geologic-point feature, annotation, fault symbol, annotation balloon containing information  
 .PTAM.=geologic-point feature, annotation, symbol describing massive texture (igneous)  
 .PTAO.=geologic-point feature, annotation, fold symbol  
 .PTAODA.=geologic-point feature, annotation, fold symbol, fold-form determined, anticline  
 .PTAODS.=geologic-point feature, annotation, fold symbol, fold-form determined, syncline  
 .PTAOH.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction  
 .PTAOHD.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction, fold form determined  
 .PTAOHDA.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction, fold form determined, anticline  
 .PTAOHDS.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction, fold form determined, syncline  
 .PTAOHN.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction, fold-form not determined  
 .PTAOHNA.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction, fold-form not determined, antiform  
 .PTAOHNS.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction, fold-form not determined, synform  
 .PTAOHR.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction, refolded fold  
 .PTAOHRD.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction, refolded fold, fold form determined  
 .PTAOHRDA.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction, refolded fold, fold form determined, antiformal syncline  
 .PTAOHRDS.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction, refolded fold, fold form determined, synformal anticline  
 .PTAOHRN.=geologic-point feature, annotation, fold symbol, fold-hinge plunge direction, refolded fold, fold form not determined  
 .PTONA.=geologic-point feature, annotation, fold symbol, fold-form not determined, antiform  
 .PTONAO.=geologic-point feature, annotation, fold symbol, fold-form not determined, antiform, overturned  
 .PTONAU.=geologic-point feature, annotation, fold symbol, fold-form not determined, antiform, upright  
 .PTONS.=geologic-point feature, annotation, fold symbol, fold-form not determined, synform

.PNTAOR.=geologic-point feature, annotation, fold symbol, refolded fold  
 .PNTAORD.=geologic-point feature, annotation, fold symbol, refolded fold, fold form determined  
 .PNTAORDA.=geologic-point feature, annotation, fold symbol, refolded fold, fold form determined, antiformal syncline  
 .PNTAORDS.=geologic-point feature, annotation, fold symbol, refolded fold, fold form determined, synformal anticline  
 .PNTAORN.=geologic-point feature, annotation, fold symbol, refolded fold, fold form not determined  
 .PNTAV.=geologic-point feature, annotation, observation station  
 .PNTAVA.=geologic-point feature, annotation data, observation station, annotation site  
 .PNTAVC.=geologic-point feature, annotation data, observation station, geochemistry determination  
 .PNTAVF.=geologic-point feature, annotation data, observation station, fossil information  
 .PNTAVFC.=geologic-point feature, annotation data, observation station, fossil information, fossil collection  
 .PNTAVFD.=geologic-point feature, annotation data, observation station, fossil information, fossil description  
 .PNTAVFO.=geologic-point feature, annotation data, observation station, fossil information, fossils observed  
 .PNTAVG.=geologic-point feature, annotation data, observation station, geophysical measurement  
 .PNTAVGG.=geologic-point feature, annotation data, observation station, geophysical measurement, gravity determination  
 .PNTAVGM.=geologic-point feature, annotation data, observation station, geophysical measurement, magnetic-susceptibility determination  
 .PNTAVI.=geologic-point feature, annotation data, observation station, isotopic-age determination  
 .PNTAVIC.=geologic-point feature, annotation data, observation station, isotopic-age determination, C14  
 .PNTAVIF.=geologic-point feature, annotation data, observation station, isotopic-age determination, Ar40/39  
 .PNTAVIK.=geologic-point feature, annotation data, observation station, isotopic-age determination, K/Ar  
 .PNTAVIT.=geologic-point feature, annotation data, observation station, isotopic-age determination, fission track  
 .PNTAVIU.=geologic-point feature, annotation data, observation station, isotopic-age determination, U/Pb  
 .PNTAVL.=geologic-point feature, annotation data, observation station, lithologic description  
 .PNTAVM.=geologic-point feature, annotation data, observation station, modal-mineralogy determination  
 .PNTAVN.=geologic-point feature, annotation data, observation station, paleomagnetic determination  
 .PNTAVP.=geologic-point feature, annotation data, observation station, pedogenic-soil information  
 .PNTAVPD.=geologic-point feature, annotation data, observation station, pedogenic-soil information, soil profile described  
 .PNTAVPE.=geologic-point feature, annotation data, observation station, pedogenic-soil information, soil profile examined  
 .PNTAVS.=geologic-point feature, annotation data, observation station, subsurface boring site  
 .PNTAVV.=geologic-point feature, annotation data, observation station, generic observation  
 .PNTZ.=geologic-point feature, analyzable  
 .PNTZL.=geologic-point feature, analyzable, linear  
 .PNTZP.=geologic-point feature, analyzable, planar  
 .PNTZPM.=geologic-point feature, analyzable, mapped planar feature  
 .PNTZPMC.=geologic-point feature, analyzable, mapped planar feature, dip direction and amount, contact  
 .PNTZPMF.=geologic-point feature, analyzable, mapped planar feature, dip direction and amount, dike  
 .PNTZPMO.=geologic-point feature, analyzable, mapped planar feature, dip direction and amount, fault  
 .PNTZPMOD.=geologic-point feature, analyzable, mapped planar feature, dip direction and amount, fold axial-plane, fold form determined  
 .PNTZPMODA.=geologic-point feature, analyzable, mapped planar feature, dip direction and amount, fold axial-plane, fold form determined, anticline  
 .PNTZPMODS.=geologic-point feature, analyzable, mapped planar feature, dip direction and amount, fold axial-plane, fold form determined, syncline  
 .PNTZPMON.=geologic-point feature, analyzable, mapped planar feature, dip direction and amount, fold axial-plane, fold-form not determined  
 .PNTZPMONA.=geologic-point feature, analyzable, mapped planar feature, dip direction and amount, fold axial-plane, fold-form not determined, antiform  
 .PNTZPMONS.=geologic-point feature, analyzable, mapped planar feature, dip direction and amount, fold axial-plane, fold-form not determined, synform  
 .PNTZPMV.=geologic-point feature, analyzable, mapped planar feature, dip direction and amount, vein  
 .PRC.=geologic age, Precambrian  
 .PRCA.=geologic age, Archean  
 .PRCAE.=geologic age, Archean, early  
 .PRCAL.=geologic age, Archean, late  
 .PRCAM.=geologic age, Archean, middle  
 .PRCP.=geologic age, Proterozoic  
 .PRCPE.=geologic age, Proterozoic, early  
 .PRCPL.=geologic age, Proterozoic, late

.PRCPM.=geologic age, Proterozoic, middle  
.PZO.=geologic age, Paleozoic  
.PZOC.=geologic age, Cambrian  
.PZOCE.=geologic age, Cambrian, early  
.PZOCL.=geologic age, Cambrian, late  
.PZOD.=geologic age, Devonian  
.PZODE.=geologic age, Devonian, early  
.PZODL.=geologic age, Devonian, late  
.PZOE.=geologic age, Paleozoic, early  
.PZOL.=geologic age, Paleozoic, middle  
.PZOM.=geologic age, Mississippian  
.PZOME.=geologic age, Mississippian, early  
.PZOML.=geologic age, Mississippian, late  
.PZOO.=geologic age, Ordovician  
.PZOOE.=geologic age, Ordovician, early  
.PZOOL.=geologic age, Ordovician, late  
.PZOP.=geologic age, Pennsylvanian  
.PZOPE.=geologic age, Pennsylvanian, early  
.PZOPL.=geologic age, Pennsylvanian, late  
.PZOR.=geologic age, Permian  
.PZORE.=geologic age, Permian, early  
.PZORL.=geologic age, Permian, late  
.PZOS.=geologic age, Silurian  
.PZOSE.=geologic age, Silurian, early  
.PZOSL.=geologic age, Silurian, late

## APPENDIX A

### POINT-ATTRIBUTE CODES FOR DIGITAL GEOLOGIC-MAP DATA BASES Version 2.0

**U.S. Geological Survey, Southern California Areal Mapping Project**

#### **Suggestions for searching and selecting using ARC/INFO command-line narratives: How it's done with a SCAMP database**

SCAMP's digital data bases can be searched in a number of ways--each requiring a basic understanding of the database structure in order to take full advantage of ARC/INFO's selection tools. The SCAMP database and coding model is linguistic by nature. Coding is accomplished through the use of alpha-numeric characters separated by a parsing symbol: dots (.) that separate primary attribute data and hyphens (-) that separate supplemental attribute data.

ARC has a number of selection commands that can be employed to access the database:

SELECT	Selects features or data items
ASELECT	Adds to your selected set of items or features
UNSELECT	Removes selected features from your group of selected items.
RESELECT	Selects a subset of items our of your group of selected items.
NSELECT	Unselects all of your currently selected items and selects all those you did not have selected.

All of the selection commands except for NSELECT can be used in conjunction with logical expressions of operators and connectors so that you can select for or against any item that is coded in the database.

Table1 illustrates some ways to search the geologic-point data base. The examples use the data-base field P-DEF that contains code sentences for two different point types (Item 1 and Item 2), :

	Item 1	Item 2
P-DEF:	.SDE.ESE.TES.ZXE.SEES.MESE.	.SDE.ESE.TES.ZXE.SEEB.MEII.

For Items 1 and 2 the two code sentences clearly are related, but they differ slightly in their last two codes.

Expression	Example	Explanation
CN	Select POINTS.REL//P-DEF cn '.SEES.'	This is a whole-word search that would select Item 1 above
CN	Select POINTS.REL//P-DEF cn '.SEE'	This is a prefix search that will select all items containing a word with the prefix <b>.SEE</b> . In this case, both items 1 and 2 would be selected

Table 1

The user can substitute any operator or connector to search for and/or against any combination of items coded in the database. Some of the operators and connectors that are useful include:

#### Operators:

CN	Contains
NC	Not containing
LK	Contains something like

#### Connectors:

AND	Only items for which the expressions on both side of the AND are true will be selected
OR	Items for which the expressions on either side of the OR will be selected
XOR	Items for which ONLY one of the expressions on either side of the XOR are true will be selected